ENGELHARD

July 6, 2006

Judy Rand
Laura Scatena
NJDEP
airworkgroupphr@dep.state.nj.us

Dear Ms. Rand and Ms. Scatena:

Engelhard Corporation has reviewed the Workgroup recommendations for restaurant emissions – HR010 – and would like to offer our comments. Engelhard Corporation, a New Jersey company, manufactures the catalyst used for controlling particulate and VOC emissions from chain driven charbroilers. Engelhard's CHARCat® charbroiler catalyst is the preferred catalyst for this application around the world. Together with our distributor, Golden West Equipment in California, we supply most of the restaurants using charbroiler catalysts. Engelhard manufactures the catalyst, and Golden West distributes the catalyst and installation kit materials, and provides customer services. Together we have a very good understanding of the cost for this equipment.

In the Cost section of this recommendation, there are tables for the capital, installation and replacement costs for the equipment that Engelhard and Golden West supply. The costs in these tables overstate the actual costs, and do not include other significant savings. We would like to offer the following more current and realistic costs for this equipment.

One-Time Costs	
Capital Cost for catalytic oxidizer (includes catalyst and transition adapter onto the charbroiler)	$2,750
Installation cost	$100
Total One-Time Costs	*$2,850*
Recurring Annual Costs	
O&M for catalyst	$25
Exhaust Stack Cleaning (savings)	($750)
Lower natural gas cost (savings)	($2,000)
Total recurring cost (savings)	*($2,725)*

The CHARCat catalyst is a metal catalyst that is close coupled with the charbroiler. The destruction of the VOC and particulate generates heat that can be radiated back into the cooking zone. The metal catalyst itself will radiate the heat form the charbroiler back into the cooking chamber. As a result, less natural gas is required to maintain the optimum cooking temperatures. The customers also indicate that the heat is more evenly distributed and enhances the cooking process. Because customers want to protect this information, we can not provide the actual cost savings for specific restaurants. However, in public conferences some restaurant chains have reported simple payback in about 9 months. Therefore, the table above reflects conservative estimates of natural gas and cleaning savings with a simple payback of one year.

The cleaner exhaust affects the cleanliness of the duct work and roof, requiring less cleaning. This can be a substantial cost for many restaurants. The value provided here is an estimate based on discussions with end users.

Therefore, due to the fuel savings and lower duct cleaning costs, installing this catalyst has a dramatic payback in a year or less. Several large restaurant chains are now installing this catalyst purely for the cost savings and enjoying the benefits of lower emissions as a result. They have conducted their own tests and reported that the payback due to energy and maintenance savings is less than one year. This was before the higher price for natural gas, so the savings can be higher now. Because these restaurant chains (with total locations well over 10,000) want to keep this as a

competitive edge, they are reluctant to share their actual savings in a case study.

Engelhard requests the cost tables be updated to reflect the actual costs that restaurants will incur, and to reflect that the typical payback on their investment is typically a year or less.

One final note, Engelhard has recently been acquired by BASF Corporation. In the near future, all of our correspondence will reflect our new ownership.

Thank you very much for allowing us to participate in this important process. Please feel free to contact me if you have any questions.

Sincerely,

Stan Mack

cc: Mike Kennedy, President, Golden West Equipment, Inc.
Vince Patram